DOCUMENT RESUME

ED 379 954 FL 800 880

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TITLE Worker Education Program 1992-93. Evaluation Report.
INSTITUTION Amalgamated Clothing and Textile Workers' Union, New York, NY.; Northeastern Illinois Univ., Chicago. Chicago Teachers Center.
SPONS AGENCY Department of Education, Washington, DC.
PUB DATE 14 Jul 94
NOTE 34p.; For related documents, see FL 800 881-883.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Achievement Gains; Adult Basic Education; Adult Literacy; Attendance Patterns; *Basic Skills; Case Studies; Classroom Techniques; Curriculum Design; Educational Needs; Educational Strategies; *English (Second Language); Immigrants; *Job Skills; Limited English Speaking; *Literacy Education; Needs Assessment; Outcomes of Education; Personal Narratives; *Program Design; Program Effectiveness; Program Evaluation; Second Language Instruction; Student Characteristics
IDENTIFIERS Workplace Literacy

ABSTRACT

An adult workplace program of literacy and basic skills is described and evaluated both for its effectiveness in the year 1992-93 and as a model for similar program efforts elsewhere. The evaluation addresses three specific program objectives: (1) establishment of a governance structure to assess actual workplace literacy requirements at the target factories; (2) implementation of procedures for recruiting, assessing, identifying, and developing individualized education plans for each participant; and (3) provision for classes enabling workers to acquire basic skills in literacy and the basic skills areas. It is concluded that the conceptual design, structures established, relevant curriculum, and instructional training component were the program's greatest assets. Other program components contributing to its success were its emphasis on experiential learning, holistic and interactive instruction, active participation, group dynamics and support, and a curriculum built on workplace realities and perceptions of work aspirations. Process and outcome goals, relating to both skill gains and workplace performance, were largely attained. Some data on student characteristics, attendance patterns, and achievement gains are presented, and learners' personal statements are included in the report. (MSE) (Adjunct ERIC Clearinghouse on Literacy Education)

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ED 379 954

WORKER EDUCATION PROGRAM 1992-93

EVALUATION REPORT

by

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Submitted to
The Chicago Teachers' Center
Northeastern Illinois University
and
The Amalgamated Clothing and Textile Workers Union

July 14, 1994

FL 800880

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Introduction

The purpose of this Evaluation Report is to analyze the efficacy of the strategies, program structure, and outcomes of the Worker Education Program (WEP). In addition, an important aim is to consider the potential of the WEP as a guide or model in understanding how to establish and implement similar workplace literacy programs.

The evaluation framework of this Report rests on the main project goals of the WEP, as stated in the Plan of Operations of the Project Proposal:

> The overall goal of this project . . . is to develop and implement a workplace literacy program that will provide workers with adult literacy skills in reading, writing, mathematics, problem-solving and English proficiency that will enhance workers' readiness for promotion and continuing employment. (p. 15)

The Plan of Operations clearly delineates measurable objectives of the project, which serve as the focus for the formative and summative assessment activities described in the project's evaluation design. Thus, the following program objectives will be addressed in this Evaluation Report:

1. **Establishment of a governance structure to assesses actual workplace literacy requirements at the target factories.** (see Project Objective #1)

2. **Implementation of procedures for recruiting, assessing, identifying, and developing individualized educational plans for each of the participants.** (see Project Objective #2)

3. **Provide for classes that will enable workers to acquire basic skills in literacy in the basic skill areas.** (see Project Objectives #3 and #4)

The Plan of Operation describes program structures to be developed in order to meet workplace literacy outcomes for worker participants. Accordingly, the main evaluation question of this Report is twofold: to what extent were the program strategies and structures implemented, and how are these structures related to measured outcomes? More specifically, the evaluation design has been guided by three principle questions: (a) To what extent has the project been effective in achieving the funded objectives? (b) To what extent has the project been effective in meeting the purpose of the Workplace Literacy Program? (c) To what extent has the project been effective in having an impact on targeted worker participants?

In evaluating the key aspects and objectives of the Worker Education Program, this Report is organized around the following main sections:

1. Efficacy of the Program Structures
WEP: Developing a Comprehensive Program

2. Process and Outcome Results
WEP: Meeting the Literacy Needs of Workers

3. Potential for Dissemination
WEP: A Model for Workplace Literacy Programs

4. Summary and Conclusions

Efficacy of the Program Structures

WEP: Developing a Comprehensive Program

An important purpose of this Evaluation Report is to ascertain the extent to which program structures and administrative procedures have been established to bring about the process and outcome goals of the project. The evaluation design makes use of two main methodologies: (1) an assessment of program structures and systems as described in project documents (project proposal, curriculum guides, staff development plans) and (2) a formative evaluation of program structures and administrative procedures as they are implemented (interviews, observations, minutes of meetings, analysis of program files).

Overall Finding

One of the most noteworthy conclusions of this Evaluation Report is that the comprehensive design and structure of the WEP is one of its greatest strengths. This is characterized especially by outstanding leadership, an effective professional staff, a clear and well-stated strategic plan, a relevant workplace curriculum, dedicated teachers, an effective teacher training program, and an harmonious working partnership between the University and the Union. Moreover, program structures, procedures, curriculum, and training were frequently evaluated in order to continue to find the most effective ways to meet program and worker participant needs.

Workplace Literacy Curriculum

The Curriculum was created on the basis of a comprehensive assessment of the literacy skills embedded in jobs at each of the workplace sites. A Curriculum Guide was developed on the basis of these skills and incorporated the latest research findings in the fields of adult education, language development and workplace literacy. On the basis of interviews, observations of classes, and analysis of

the documents by this evaluator, it is concluded that the WEP curriculum meets the needs of the participants and serves as a useful and effective guide for the teachers. The Curriculum is comprehensive, relevant to each work site, and one of the most important results of the WEP.

Instruction and Teacher Training

The teachers effectively meet the needs of the participants, are highly motivated, use the oral language of students, and develop illustrations and teaching scenarios from the workers' experience at the factories. The teacher training component of the program is outstanding. Mini lessons, modeling, development of hands on instructional materials, and moral and professional support are a consistent part of the training.

Recruitment, Placement, and Monitoring Student Performance

Recruitment of students has been the greatest challenge for the WEP. A recruitment counselor, frequent visits to the factories, a video tape of the program, and other incentives were used to meet the enrollment targets. Students were given a series of language tests to determine their program placement. These included BEST, Holistic Writing Samples, Student Portfolios, Progress Reports, Anecdotal Records, Attendance Records, and Individual Learning Plans. These meet the placement need, instructional practices, and monitoring of students in a most effective manner.

Collaboration between Partners and Participating Factories

One of the most important goals of the WEP was to have workers, employers, university, union, and community participation in the program planning and implementation. Program administrators and staff dedicated significant time and effort to working with participating factories in order to develop workplace literacy plans. These plans greatly facilitated the recruitment and retention of students and were linked to performance and reward policies of the

work site. This is one of the great successes of the program for it links quality work and workplace literacy policy and strategic planning. Moreover, it is one of the best indicators of the extent to which management is committed to the goals of the workplace literacy program.

Formative Evaluation

Information about program operations, student participation, curriculum and instruction, and training was an important part of policy making, administration, and program monitoring. Both internal and external formative evaluation activities provided timely and critical data for WEP needs. Modifications and refinements of program strategies and structures were made on the basis of this formative evaluation data.

Process and Outcome Results

WEP: Meeting the Literacy Needs of Workers

Several language development and worker performance indicators were collected to determine the effectiveness of the Worker Education Program. To ascertain student progress and to evaluate program outcomes the following information was gathered on each worker participant:

Background Information: sex, age, country of birth, enrollment.

Employment: company, work position.

Education: years of schooling, English as a Second Language (ESL) classes.

Class Attendance

Pre and post-test scores on the Basic English Skills Test (BEST)

Pre and post-test Writing Samples in Spanish and English

Individual Learning Plans (ILP)

Comments of progress by teachers

Examples of class work.

Additional process and outcome information was obtained from observational checklists, interviews with factory managers and supervisors, and interviews of teachers and program staff. Such data was used to measure the extent to which students improved their knowledge about workplace literacy skills and improved workplace performance.

Overall Findings

Significant progress on measures of language development and workplace performance were found as a result of participating in the WEP. The average gain on the BEST was 12.3, and on the Holistic Writing Sample it was 1.9 (See following Tables). This finding is particularly noteworthy when we consider the educational and language backgrounds of the workers participating in the program. The average years of schooling is eight, nearly all participating students were non English speakers, and over one third had no prior English as a Second Language (ESL) classes.

Assessment checklists by plant supervisors on 15 items of workplace competencies indicated that the WEP made an important impact on work performance. Anecdotal records by teachers, individual lesson plans, and interviews with teachers and program staff, compliment the quantitative data. These case study materials reveal a pattern of program effectiveness in meeting projected goals.

Profile of Sampled Students

A representative sample of 25 of the 220 participants was selected in order to more closely analyze pre and post test outcomes of the WEP. Table 1 and 2 give background information for each student in the sample. As can be seen from the tables, most of the participating students in the sample are female, were born in Mexico, and did not complete secondary schooling (average schooling was 8 years). The average age of the students was thirty eight. Eight of the twenty five sampled students had not taken any ESL classes. Most of the sampled students are employed as packers or assembly workers, two are machine operators, and one is a clerk.

This is a representative sample in that it corresponds to the average age, birthplace, and average schooling of the program participants. It is not representative in that the sample has somewhat more female students than does the overall participants.

Table 1

Profile of A Representative Sample of Participants*
Worker Education Program 1992-93

Sex	Age	Birthplace	Years of Schooling	ESL	Company	Position
F	35	Mexico	1	yes	Juno	assembly
F	30	Mexico	6	yes	Juno	clerical
M	37	Mexico	6	yes	Juno	assembly
F	30	Mexico	6	no	Juno	assembly
F	35	Mexico	11	yes	Juno	assembly
M	24	Mexico	6	yes	Juno	receiving
M	21	Mexico	5	yes	Juno	assembly
M	35	Mexico	0	no	Juno	receiving
F	26	Mexico	9	no	Chg. Tran.	packer
F	22	Mexico	9	no	Chg. Tran.	packer
F	27	Mexico	12	yes	Chg. Tran.	packer
F	25	Mexico	9	yes	Chg. Tran.	packer
F	22	Mexico	12	yes	Chg. Tran.	packer
F	29	Mexico	6	no	Chg. Tran.	packer
M	25	Mexico	7	yes	Chg. Tran.	mach. oper.
F	38	Mexico	7	yes	Pty. Shoes	Mach. Oper.
F	39	Mexico	11	yes	Pty. Shoes	Sewing
M	45	Mexico	8	yes	Pty. Shoes	Cutter
F	33	Guatemala	8	yes	Pty. Shoes	Packer
F	41	Guatemala	7	no	Libra	Punch Press
F	41	Mexico	6	no	Libra	Selector
F	21	Mexico	12	no	Libra	Sorter
F	50	Mexico	3	yes	Libra	Inspector
F	55	China	8	yes	Harts	Sewing
F	50	China	17	yes	Harts	--

*Data compiled from a representative sample of participant files (220). n = 25

Table 2

Summary of Background Data on Sample Participants
Worker Education Program 1992-93

Sex		Age	n
Female	19	55	1
Male	6	50	2
		45	1
		41	2
		39	1
		38	1
		37	1
		35	3
		33	1
		30	2
		29	1
		27	1
		26	1
		25	2
		24	1
		22	2
		21	2

Birthplace	
Mexico	21
Guatamala	2
China	2

Years Schooling	
0yr	1
1yr	1
3yrs	1
5yrs	1
6yrs	6
7yrs	3
8yrs	3
9yrs	3
11yrs	2
12yrs	3
17yrs	1

Took Some ESL Classes	
Yes	17
No	8

Data compiled from Table 1.

Class Attendance

As can be seen from Table 3, there is a wide range in hours of class attendance: from 372 hours to 27 class hours of attendance. This is probably mainly a function of when students first enrolled in the program and the number of courses taken, and not simply related to the regularity of attendance. Table 3 also contains pre and post test gain scores on the BEST and Holistic Writing test. An analysis of the data indicates that there does not seem to be a correlation between hours of attendance and gain scores.

Gains on BEST and Holistic Writing Tests

Table 4 gives the gain scores on the BEST and Holistic Writing Tests. As can be seen from the scores, each student sampled shows a gain on these tests. For some students these gains are quite significant. The range on the BEST is from +4 to +23, with the largest gains recorded among students with lower pretest scores. The average gain was 12.3. It seems reasonable to expect that students with little English language proficiency backgrounds would have the greatest potential for growth, and this is verified by the results. The findings also might indicate that students with higher pre-test BEST scores need to make a greater effort for like increase of gain scores.

On the Holistic Writing Test the range in gain scores is from +.5 to +4.0, and a similar but less strong pattern as in the BEST gains is recorded. The average gain was 1.9. The BEST is an oral language test and more sensitive, in the case of ESL students, to recording gains in English. The Holistic Writing pre test was given in Spanish, and only a third of the sampled students had sufficient English to take a writing test in English. It is noteworthy that most of this third appear at the lower end of the gains table indicating that greater gains seem more likely among students with less English proficiency.

The gain scores of the BEST and Holistic Writing Sample are grouped to help illustrate the possible correlation between gains on these language tests. Figure 1 indicates a reverse correlation between gains on these oral and written language tests. The data

Table 3

Class Attendance and Pre and Post Scores on BEST and Holistic Writing Test
Worker Education Program 1992-93

Participant sex/age	Attendance Hours in Class	BEST* Pre	BEST* Post	BEST* Gain	Holistic Writing** Pre	Holistic Writing** Post	Holistic Writing** Gain
1F35	372	19	29	+10	0.0	2.0	+2.0
2F30	330	31	--	--	2.0	2.5	+ .5
3M37	328	23	33	+10	0.0	2.0	+2.0
4F30	123	16	33	+17	0.0	2.0	+2.0
5F35	104	22	26	+4	1.5	4.0	+2.5
6M24	75	23	27	+4	0.0	2.5	+2.5
7M21	78	32	39	+7	3.0	4.0	+1.0
8M35	77	7	30	+23	0.0	1.5	+1.5
9F26	144	8	26	+18	0.0	4.0	+4.0
10F22	137	13	31	+18	0.0	3.0	+3.0
11F27	129	9	29	+20	2.0	3.0	+1.0
12F25	117	12	34	+22	0.0	4.0	+4.0
13F22	92	9	34	+23	0.0	3.0	+3.0
14F29	62	1	25	+24	0.0	1.5	+1.5
15M25	37	29	35	+6	2.0	2.5	+ .5
16F38	69	29	34	+5	2.0	3.0	+1.0
17F39	63	21	33	+12	0.0	3.0	+3.0
18M45	84	23	31	+8	1.5	2.5	+1.0
19F33	80	7	19	+12	0.0	2.5	+2.5
20F41	135	7	26	+19	0.0	2.0	+2.0
21F41	73	5	16	+11	0.0	1.0	+1.0
22F21	44	6	21	+15	1.0	3.0	+2.0
23F50	87	14	23	+9	0.0	2.0	+2.0
24F55	27	22	26	+4	1.0	2.5	+1.5
25F50	27	19	26	+7	2.0	2.5	+. 5

*BEST = Basic English Skills Test -- Oral Interview Subtest (Maximum score is 40) Center for Applied Linguistics, 1989

**Maximum score on the Wholistic Writing Test is 5.0

Table 4

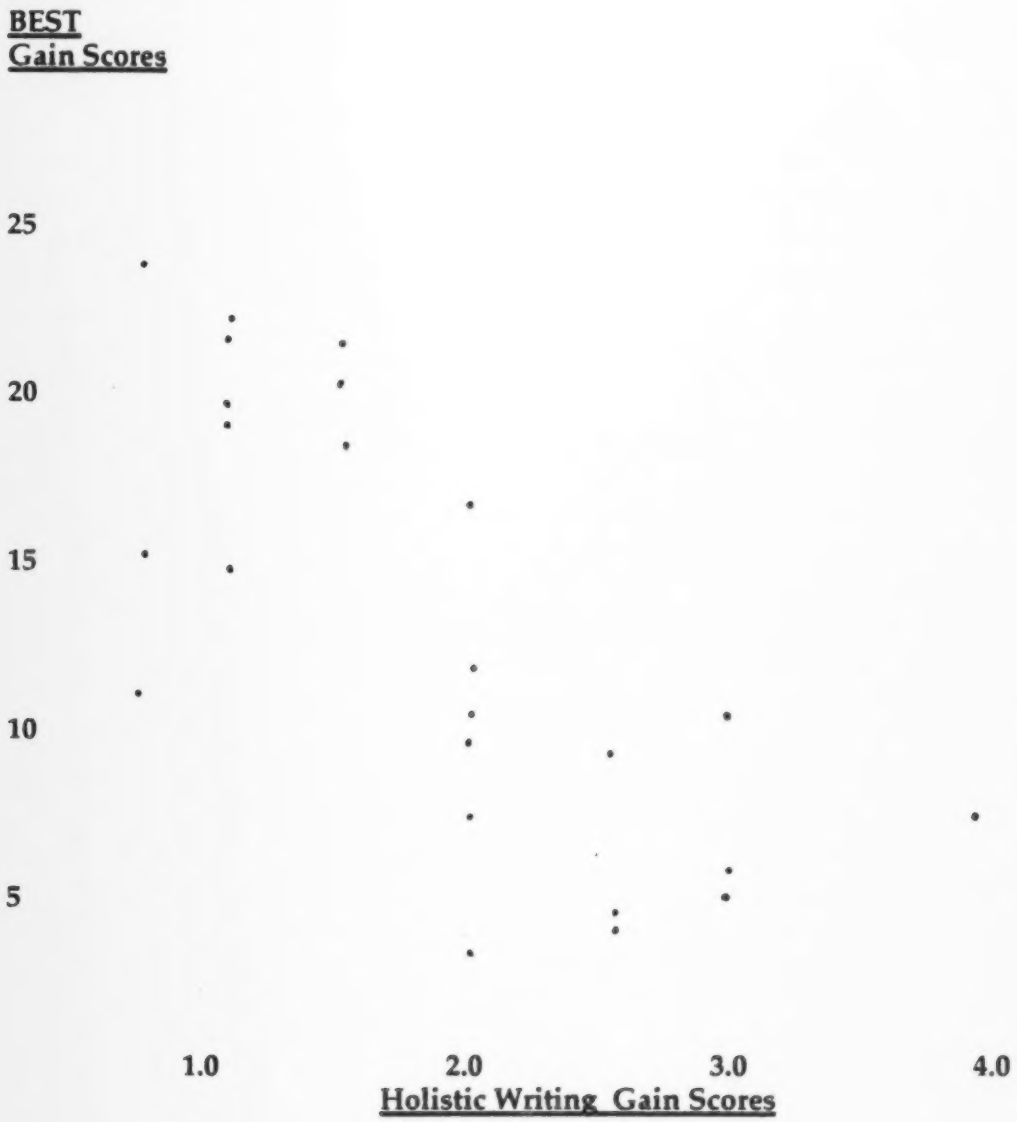
Summary of Gain Scores on BEST and Holistic Writing Test
Worker Education Program 1992-93

Gains on BEST - Oral Lang.				Gains on Holistic Writing Test			
(ID)	Pre	Post	Gain	(ID)	Gain	Pre	Post
(7)	32	39	+7	(9)	+4.0	0.0	4.0
(2)	31	--	--	(12)	+4.0	0.0	4.0
(16)	29	34	+5	(10)	+3.0	0.0	3.0
(15)	29	35	+6	(13)	+3.0	0.0	3.0
(3)	23	33	+10	(17)	+3.0	0.0	3.0
(6)	23	27	+4	(5)	+2.5	1.5	4.0
(18)	23	31	+8	(6)	+2.5	0.0	2.5
(5)	22	26	+4	(19)	+2.5	0.0	2.5
(24)	22	26	+4	(1)	+2.0	0.0	2.0
(17)	21	33	+12	(3)	+2.0	0.0	2.0
(1)	19	29	+10	(4)	+2.0	0.0	2.0
(25)	19	26	+7	(20)	+2.0	0.0	2.0
(4)	16	33	+17	(22)	+2.0	1.0	3.0
(23)	14	23	+9	(23)	+2.0	0.0	2.0
(10)	13	31	+18	(8)	+1.5	1.0	2.5
(12)	12	34	+22	(14)	+1.5	0.0	1.5
(11)	9	29	+20	(24)	+1.5	1.0	2.5
(13)	9	34	+23	(7)	+1.0	2.0	3.0
(9)	8	26	+18	(16)	+1.0	2.0	3.0
(20)	7	26	+19	(11)	+1.0	2.0	3.0
(8)	7	30	+23	(18)	+1.0	1.5	2.5
(19)	7	19	+12	(21)	+1.0	0.0	1.5
(22)	6	21	+15	(15)	+0.5	2.0	2.5
(21)	5	16	+11	(2)	+0.5	2.0	2.5
(14)	1	25	+24	(25)	+0.5	2.0	2.5

Data assembled from Table 3

Figure 1

Scattergram of BEST Gain Scores with Holistic Writing Gain Scores
Worker Education Program 1992-93



here correspond to the research literature on second language learning: language learning tends to proceed from oral language improvement to an increase in writing proficiency. The scattergram indicates that the greatest writing performance gains are found also among those with the greatest oral performance gains.

Improved Job Skills and Performance

Supervisors and plant managers were asked to rate the workers participating in the program on the basis of a list of job performance competencies (see Table 5). The data from a sample of 5 companies were examined and are analyzed here. The results indicate that improvements were made in each of the 15 categories measured. A particularly noteworthy finding was that in all the plants it was reported that more English was spoken with supervisors than previously, and that workers' self confidence had increased. Another very significant finding was that in four of the five companies supervisors reported that absenteeism rates, errors and waste had decreased, while on-line production and job performance had increased.

Three of the five companies found that their product quality control and team work had improved and that there were fewer communication problems as a result of participating in the literacy program. Four companies noted that writing skills had improved and three saw improvement in computation and measurement skills.

Only two of the five companies studied reported that any workers had been promoted while participating in the workplace literacy program. This probably is as much due to the availability of positions as it is to the training program and qualifications of workers. Similarly, only two companies reported that participation in staff meetings had increased, perhaps due as much to the internal structures of the work settings as to the training program itself.

Case Studies of Participants

Case study information on participants is important because it illustrates patterns, themes and issues raised by quantitative measures of program evaluation. Case studies often reveal messages that have larger and more universal applications. The following summaries and quotations of students and teachers in the program portray the human dimension more clearly than might the survey and test results. Motives for joining the literacy classes, job satisfaction, and work aspirations are some of the dimensions of these narratives of workers and the worker literacy program.

In examining the Holistic Writing pre and post tests, one is struck by the progress made in oral language development and English writing expression of the participants. But a study of the content itself of the writing samples reveals a far larger dimension of what it means to learn a second language, what the work realities are, and what the career hopes of the workers might be. Such perspectives are important to consider in designing worker literacy curriculum and instructional strategies. (For each of the quotes below, the participant is identified by the id number from Table 1 above.)

The participants quoted below were unable to write in English for the pre-test writing sample. The writings cited here are from the post-test Holistic Writing Sample, and generally are the students first efforts in writing English. They illustrate that language learning is bound to a social context and suggest that language is facilitated by encouraging expression of what is most important and meaningful to students.

> My name is B.V. I live in Melrose Park. I come everyday a my job in the Juno Lighting. I work in the line in the assembly. I start at 6 am and 3:30 I go to the school at starting English. **1f35**

> I have big family. I have three boys and one girl. My older son he going to high school. My little girl she going to the preschool. We are a happy family at this stay. The differences of my country is the stores and the streets and the many families. **4f30**

I have 4 brothers and 4 sisters. 2 brothers work in hotel and the other 2 work in a factory. My 3 sisters works in a factory and the other one she studying. My Father and Mother are Mexican. They like Mexican music. In my country the job is diferent, the food is diferent. **6m24**

My name is R. I work at Chicago Transparent products. I have 2 years. My job is packer. I don't have problems because the machine operator is good worker. All the time checs her job. **10f22**

My name is Y.C. I came to the United States 3 years and 5 months ago. I started working in a restaurant 1 year ago. Then my friend told me about this job at Chicago Transparent Products. Now I have this job. My job is packer. I work 12 hours a day, I work 36 hours a week, the other week 48 hours. **12f25**

Write something about my children and husband. I have a beautiful family. I have 3 children, my older son have 13 years old and 9 years old, and my little baby have 1 year 10 months. My husband love my children too. I don't have parents, only have sisters and brothers. They live in Mexico. **17f39**

I work in Hart S. Marx factory. I sew labels on the man suit. I work about 30 hours a week. I have good managers. I like my job and I makes a good work. I have many friends. I am happy but the work place is too small. I'll be more carefully to work. **24f55**

A few of the students could write in English during the pre test Holistic Writing sample session, and their post test sample writings are given below.

When I came for United States I came very sad because I living all my family in Mexico, only my son and my husband and I came. All my family are in Mexico, and I miss my Mother and Father and my ten sisters. Now I'm happy because I can go to Mexico every year or six months and see all my family. **16f38**

I work at Chicago Transparent Products. My job is packer sometimes boring. I don't like work is heavy. I work 36 or 48

hours per week. I like my job because the boss is friendly. I check the bags, weigh the box, make the box, close the box. I put on the skid, sometimes I work out the rolls. **11f27**

My first day at Juno. When I started to work at Juno the first day, I was very nervous because it was my first job. I never worked outside of my home. That day when I put the material over the table, two sockets fell down. It was terrible for me. I thought maybe they would fire me, but nothing happened. Now I know when the material falls down, it is not good, but it isn't terrible, but could cause a terrible accident for somebody. **5f35**

Several students in Kathy Speers' class at Chicago Transparent Products were promoted, and she reflected upon their progress:

E. G. started the English classes at a very low level. After a few months in class she was so motivated to learn English that she enrolled in additional ESL classes at Lakeview Learning Center. After 6-8 months in the worker literacy class, E.G. was promoted from packer, the entry-level position, to machine operator trainee, a job which requires far greater English communication skills as well as far more responsibility.

C.H. was a machine operator trainee when he started class. I worked individually with him on an oral test to become a machine operator. After 6-8 months in class, C.H. took and passed the test and was promoted to machine operator.

A.W. was a packer when she started class. After 5 weeks she was promoted to Quality Control Assistant.

The WEP Training Coordinator reported that: "In all three of the above cases, the Plant Manager said the workers' participation in the ESL classes was a decisive factor in determining who would be promoted. He noticed improved communication skills in English as well as a far greater understanding of the forms used at Chicago Transparent Products in these three workers. He also noticed improvement in their ability to weigh and measure accurately and do

other basic math calculations, which were integrated into the ESL classes."

One of the most important components of the WEP are the teachers' progress reports and comments on students. These contain diagnostic assessment of student progress, teacher comments, and strategies of meeting student needs. A typical illustration of a teacher's comment about the progress of one of her students is given below:

> Over the last 8 weeks, V. has made a lot of progress in many areas. She now seems quite comfortable working in pairs, asking questions, explaining things to others, using her voice. She enjoys doing worksheets, drilling past tense, doing pantomimes and playing other games. She has a good memory and seems to retain a lot of information from one class to the next. She seems more confident speaking and listening to her English. She also likes to know why the grammar works the way it does.

Another teacher wrote about her student as follows:

> After two months of classes, E. has perfect attendance. He scored 0 on the oral BEST pre test and after approximately 40 hours of study, scored 10 on the post-test. He can now communicate what he can do on the job and personal information where as before he could not. He also stated that he was able to understand and communicate with his Doctor's office and was quite proud of it. His hand writing was also improving. He started to correctly use capital and small letters when filling out sample applications.

In reflecting upon the progress of her students, a teacher noted:

> J. H. was very quiet and embarrassed to speak English at first. Now, after 11 weeks, he won't speak Spanish in class at all, and he is very talkative in English. He also had a difficult time writing in Spanish at first, now he writes only in English for class. He takes notes all the time.

D.V. and R. D. never went to school either in Mexico or the United States. They had difficulty with basic addition when classes started. After 1 weeks they are multiplying, dividing, working on fractions and decimals.

H.C. and F. G. come to class even on their days off!

Teachers are asked to keep lesson plans and to discuss instructional strategies with the curriculum coordinators who provide support and professional development services. An overview of a typical lesson plan is given below:

Oct. 3 Introductions, review of alphabet, numbers, mini-dictations, phone conversations giving basic information about self, job, family, workbook through pg 13.

Oct. 10 Review of BE, TPR with job skills, brainstorming about jobs, 20 questions, workbook 14-25.

Oct 17. Interviews about skills they have, transferable skills, review 3rd person sing. irregularities with unusual sentences, card game with job skills.

Oct. 24 Want ads. exercise: reading Tribune ads for location, experience, money, language req. PT/FT, questions need to ask for more information. some work in book

Oct. 31 Go over want ad homework, compare ads, acting out interviews, review present progressive vs. simple present, some book work.

Nov. 7 Talk about habits and background,describing people outside, picture story cards (about looking for a job) in progressive, acting out story (discussion of elections, NAFTA)

Nov. 14 Picture story cards, acting out story.

Nov. 21 Deductive review of question formation, past tense with regular verbs, Elvira's crazy day in past, house care verbs, -t -d -id endings, sheet with some irregular verbs.

Perhaps the most fitting ending to this section is to let the voice of one student speak as she describes what she does at work, and in doing so reveals the progress she has made in her ability to express herself in her second language as a result of participating in the Worker Education Program.

What I Do in a Day At Juno

I get to Juno at 6:30 a. m. Sometimes I drink some coffee till it's time to punch-in at 6:46, then I clean my safety glasses. We start working at 7:00 a.m. First, I start putting labels and the date to the boxes where I'm going to pack. At 9:30 a.m. I get my first break for 10 min. Then I keep packing till 12:25 p.m. when I get my lunch for half-hour. By that time, our group leader lets us know where we are going to be working after lunch. Since I worked all morning standing up our group leader is so considerate and he changes my position so I can work sitting down. He puts me to assemble two little springs on a baffle. Since I'm the first person in the line, it's up to me to make the others work faster. At 1:50 p.m. I get my last break. When I get back after break I continue on the same thing. Then half or 1 min. before 3:30 p.m. the bell rings. I punch out. Then I go get my books from the car for GED and ESL on Monday, Tuesday and Thursday.

M. E. V.

Potential for Dissemination

WEP: A Model for Workplace Literacy Programs

An important aim of the WEP was to document ". . . a model that could be disseminated to other settings." (*Abstract* of Proposal). An analysis of the program proposal, the curriculum guides, instructional materials, and interviews with the WEP staff during 1992-1993, has led to the following conclusions about the nature of the program as a model for similar workplace literacy projects.

1. Comprehensive Framework to Guide the Program

The WEP has a clear and well thought out philosophy, instructional framework and vision of workplace literacy guiding the program. This is based on the staff's thorough search of the literature on workplace literacy programs, outstanding leadership of the Project Director, and extensive experience in the field of adult education and literacy of the professional staff coordinators. As importantly, a close working relationship among the partners has drawn upon multiple perspectives in building a consensus of main goals, policy, procedures, and implementation practices of the program.

The WEP recognizes that the nature of work and the work force in the United states is changing rapidly and that it is necessary to "re-think, re-define, re-tool, and re-invest its agenda on education and the world of work." The stated goals and structure of the program have been designed to address these new challenges.

The on-site visit and review by the US Department of Education in December, 1992, helped further crystalize this workplace focus of the program. Specific literacy needs of individual workplaces, contextualized curriculum materials, and literacy skills embedded in the workers actual jobs are refinements of the instructional framework in effect through out the program's history.

2. Collaborative Workplace Literacy Planning

What is impressive about the WEP is the extensive needs assessment activities carried out in order to guide instructional strategies and program operations. This has been undertaken in a collaborative way with all the partners involved: workers, union, management of the companies, and university. An Advisory Board is in operation to monitor the program, and task assessment of job specific literacy needs is the basis for the relevant curriculum guide for teachers.

A prominent conclusion of this Evaluation Report is that in companies where the WEP is integrated into an overall worker training and quality improvement program, the effects of such workplace literacy initiatives are maximized.

3. Learner-Centered and Holistic Instructional Strategies

An effective adult literacy program must rest on sound pedagogy and an understanding of adult learning. The WEP has such a grounding, as evidenced by its guiding documents, and statements and practices of administrators, staff and teachers. This is illustrated by the following summary of guiding principles of the program.

> The ACTWU Worker Education Program's philosophical approach is "learner-centered" and "holistic." "Holistic" means that all four language skills (reading, writing, listening, speaking) are taught in each class session.
>
> "Learner centered" means that students needs and interest . . direct the course of the curriculum; curriculum materials are based on students' interests and choices; and maximum student involvement, participation, cooperation, and initiative are encouraged.
>
> In the ACTWU Worker Education Program, learners are active in their learning: they set goals for themselves, track their own progress and become more aware of their learning process.
>
> (Curriculum Guide, 1992, p. 4)

The coherent instructional strategies developed by WEP directly stem from an operating vision of workplace literacy and philosophy of

adult education. Quoting from the Curriculum Guide (1992, p. 4), the instructional strategies can be described as: (a) "interactive and reflective learning," (b) "workplace needs become their course of study," and (c) students and teacher work together to gain the skills for their personal language, literacy, and workplace development." The aim of these instructional strategies is to help workers learn ". . . how to learn, how to solve problems, how to work as a team and how to pursue a life long career in the changing workplace."

4. Curriculum Based on Workplace and Worker Needs

Three main approaches are used in teaching literacy in the Worker Education Program: (a) *Total Physical Response* which involves oral/aural skill development, (b) *Language Experience* which is based on the "actual words and language patterns of the learner," and (c) *Group Dynamics* in which peer motivation and building group cohesion helps motivate students to attend class and support each other.

Word lists and phrases specific to the different workplace locations have been generated and incorporated into the curriculum guide and instructional materials for teachers. These core word and phrase lists, developed by the program staff, are used by teachers and students during class sessions. This is an illustration of the interactive aim of the program and how work place needs become the course of study. Samples from one of the word lists:

American Guard-It Vocabulary Nouns: *garment bag, fabric, zipper, pocket, thread, loop, seam ticket, snap, tag, webbing, rivets.* Verbs: *sew, stitch, lay, cut, bundle, trim, assemble, inspect, staple.*

During the program implementation, the WEP's interactive learning approach (language experience, learner-centered, and holistic) has been the guiding conceptual framework for developing the workplace literacy focus of the curriculum. This approach is vividly illustrated in the proposal document:

> To insure that there is an on-going relationship between skills and the workplace, instructors will use the oral language of

students and in this way develop examples and illustrations drawn from the workers' experience at the factories.

5. Formative Evaluation for Program Improvement

As the curriculum was being implemented, documenting the experiences of staff, teachers and students was useful in understanding the functioning and evaluating the efficacy of the program, and the extent to which goals were being achieved. It also is an invaluable guide for others involved in workplace literacy programs. The narratives of these experiences are particularly rich research and can contribute to our understanding of the nature of workplace literacy and how best to address the issues surrounding it.

6. Enlarging the Concept of Workplace Literacy

Perhaps one of the chief contributions from the experiences gained in constructing and implementing the WEP curriculum, lies in the insights gained concerning worker's attitudes toward work, readiness for changes in the workplace and taking advantage of new opportunities for career advancement. Importantly, this suggests that the concept of workplace literacy must be sufficiently large to include perceptions of work and career opportunities, career aspirations, self awareness, analysis of one's talents, and career planning.

This assumes that a workplace literacy curriculum needs to be based upon not only an understanding of adult education and literacy development, but upon a recognition of the nature of career and human development as well. This is an important characteristic of the WEP. A narrow view of workplace literacy does not address the larger issues of preparing workers for the new technologies and work realities of the future, or of helping them with their career aspirations and decision-making.

Hence, the WEP curriculum should be seen as a continually evolving one, as it helps students construct knowledge of the realities of their own workplace, while guiding them in gaining a larger perspective

of opportunities in a changing US work environment. What is striking about many of the students taking the courses is their youth (40 percent are under 30 years of age; 76 percent are under 40 years of age). This literacy program is preparing a significant percentage of workers who are just beginning their work careers. This perspective should be ever present as the curriculum continues to evolve and is implemented.

While there is merit in beginning with specific site based contexts in designing the curriculum, there are more compelling arguments for: (a) addressing requirements for work advancement in the workforce at large, (b) acquiring skills to meet new technologies, and (c) attaining literacy skills that are broadly applicable and transferable. The WEP addressed this later perspective and thus is a good guide for workplace literacy curriculum construction.

> Courses will be offered to raise worker basic literacy skills in reading, writing, and mathematics, and mini-courses and workshops will be provided so that workers can obtain problem solving and communication skills that will enable them to be promoted or to cope with the changing technological needs of the workplace. (*Abstract* of Proposal, 1992)

> Companies will encounter numerous roadblocks to adapting flexible technology to worker's skills, requiring a whole new and complex set of skills and a range of knowledge that is both broader and deeper than is currently required. (Proposal, p. 8)

It may well be that the best way to motivate the youthful participants of the WEP courses is to help them see themselves in the context of the changing needs of the US workforce and the opportunities available to them as they continue to become literate-- in the largest sense of the word. Perhaps new word lists and phrases need to be added to the specific site based ones (eg. *opportunity, future, career, job satisfaction, promotion, preparation, planning, technology, information, service, better salary; what I would like to do; a job for my talents.*).

Summary and Conclusions

Efficacy of Program Structures

The conceptual design, structures established, relevant curriculum and instructional training component are the WEP's greatest assets. The WEP program development, curriculum construction and implementation, and staff development of teachers was instrumental in attaining desired project objectives. Other components which contributed to the success of the program development include: an emphasis on experiential learning, holistic and interactive instruction, active participation, group dynamics and support, and a curriculum built from workplace realities and perceptions of work aspirations.

The main conclusion is that the WEP was well conceived and efficiently implemented so that targeted outcomes could be achieved.

Process and Outcome Results

Based on both quantitative and qualitative data, the project attained its process and outcome goals to a significant degree. Pre and post testing of oral and written language showed marked gains for worker participants. These results are attributed to the nature of the curriculum, effective instruction, and a highly supportive teaching training program. The most marked gains in both language development and workplace performance were found in those companies where workplace literacy was integrated with human resource training and quality improvement programs.

From checklists and interviews with plant supervisors and managers it was found that worker performance on 15 different indicators had improved as a result of the WEP. Moreover, the case study data confirm the findings of the survey and test data that the program was effective in meeting its projected goals.

WEP as a Model for Designing and Implementing Other Programs

The WEP has great potential to serve as a model for designing and implementing other Worker Education Programs. Some of the main strengths include the governance structure, the leadership and administration, a relevant curriculum which integrates worker literacy and work performance needs, teacher recruitment, support, and training, and the formative evaluation system which provides feedback to decision making.

The WEP by constructing curriculum from students' realities and experiences is pedagogically sound. There is a continuous concern to build the curriculum from the workplace realities and needs and workers' perceptions of their working career. Workplace literacy is conceived in the large context and includes work advancement, career aspirations, work opportunities, work force needs, future developments of marketplace requirements, and workers' career aspirations and perceptions.

In designing curriculum, WEP has kept a perspective on new and complex skill requirements, and "a range of knowledge that is both broader and deeper than is currently required." The program recognizes that this larger horizon may be a motivator for the youthful student population enrolled.

Group dynamics and peer support is another powerful motivator. Staff development includes suggestions on how to build group cohesiveness which would lead to more stable attendance. Group instructional activities have been designed, such as: games, dialogues, role play relevant to group dynamic needs, problem solving, and high interest group activities.

Perhaps one of the most important elements of the program structure is the extent to which the WEP sought to coordinate its efforts with the human resource and quality improvement policies and plans of individual companies. A critical finding is that where workplace literacy goals and the company's human resource development program and quality improvement goals are in accord, the greater are the possible contributions to workers in the rapidly changing United States labor market.

Appendix A

Narration of Interviews and Observations

One of the important functions of an external evaluator is to help program staff members articulate their view of their work and consider it from new perspectives. Interviews are opportunities to mutually reflect upon how the program is developing, and to make adjustments when needed. The following narrative of interviews and observations is meant to serve these purposes. They are not verbatim quotations and their authors are not identified. They are given in chronological order. (It should be said, too, that narratives reflect only a partial dimension of what took place during the interviews, often something deeper and more illusive to capture.)

Fall, 1992

A key to literacy is addressing issues close to their whole life, their work, their self esteem.

In September we will begin registration. We have hired two coordinators. The Union stewards are spokespersons of the program. We've coordinated with community organizations, and have an Advisory Board.

The Union criteria for site selection was: basic communication problems, struggle over wages, attendance problems, dismissing workers, workers not taking advantage of union services, amnesty applications. (It is a new, immigrant work force.)

The biggest issue is how to motivate students, how to increase interest in class. There are many barriers: survival needs, conditioning, status quo, and apathy, are a few.

We see this as a learner centered educational program. It is participatory, meant to empower people.

We look for common interests among the partners, but there are different perspectives. University: human resource development; Union: increase active membership; Companies: responsible and efficient workers.

We are breaking ground by including workers in the planning and offering day care. In adult education, we learn from them (as much as they learn from us).

Life and work skills are hidden in many layers of the many players. Managers are supportive, but generally not contributing. They mainly want basic English. Unions have larger agendas.

The workforce is multicultural. The worksites often mainly require craft skills more than language skills. Still, one worker said: "when the machine breaks down, how do I tell the boss?"

A concern is to show students how they are progressing.

Now (November) we have 140 students who are in many levels. It is a beginning. Literacy is a family affair. Their kids come, family members come. There is also a meeting of cultures.

Most classes have done no writing. We need more emphasis on it.

The nature of the work influences the students. Most is labor intensive, stressful, and assembly line.

Do teachers use the curriculum document? How to translate the guidelines to the classroom is a concern.

My class is small. The students are using weird names for tools.

This is largely an immigrant union. The union wants an outreach program, and this program is one.

The steward is in my class. They need to express views and inform others.

The union wants to communicate. They want to educate.

We need to know about Latinos. Teachers need to talk about unions in different cultures.

Labor paper is too high an English level. Need to rework union news in simpler English.

Spring, 1993

Students are more confident in expressing themselves and their English has helped them in their work setting.

Students are responding. They are not used to being asked opinions.

The Department of Education has a different expectation of workplace literacy. Life skills is not their focus. We needed to write up a whole new curriculum.

Dilemma: many students are bored with their jobs, and their jobs mainly do not require literacy. (But DOE wants a workplace focus). There are no manuals defining work skills at the work sites. University has a human resource approach, DOE has a technical approach, a more narrow view of workplace literacy.

We are on the right road, by teaching larger skills, eg. doing measurement, weights, at Chicago Transp.

How to keep the "big picture"? We need to be sensitive to the student and union culture. The classes are multi worksite classes. How to bring in specific work site realities?

Personal realities enter class. One student's nephew was killed by a gang. This spills over. Mothers attend class with their children on their laps. This is family literacy.

How to help teach a larger concept of work? A larger dimension for workers who see work from their particular site?

We ask ourselves if we are seeing a progression of learning among students.

We are trying to start the Anthologies. What is it the students want to write about? are able to write about?

How to help the program be workplace focused is our challenge, given the students' larger realities.

We do see a natural progression taking place for us in developing our curriculum. Perhaps life skills is motivating, but it is a very large topic to cover. We need to talk to workers more to give us feedback.

What have we learned from the 16 item questionnaire?

Attendance is irregular. There is a revolving door of students coming and going.

Teachers need autonomy. And we need to incorporate into classes the realities of the workplace.

What does make for a successful class? The teaching seems to be the main factor. Students come because they like the teacher.